

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

*"O fortunatos nimium sua si bona norint
Agricolas." . . . VIRG.*

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AGRICULTURE.

A DISCOURSE, READ BEFORE THE

Essex Agricultural Society,

IN MASSACHUSETTS, FEBRUARY 21, 1820,

Suggesting some Improvements in the Agriculture of the County.

BY TIMOTHY PICKERING,

PRESIDENT OF THE SOCIETY.

[Continued from Vol. II, No. 9, Page 66.]

II. ON ROOT CROPS.

Premiums having been proposed to encourage the raising of Carrots, Ruta Baga; and Mangel Wurtzel; and as these articles, cultivated extensively, are of vast importance to farmers; I can perhaps in no way better promote the views of the Society in their vote before mentioned, than by describing the methods of cultivating those roots, which elsewhere have been practised with great success, but to which, and indeed to the roots themselves (carrots excepted) most of our husbandmen are strangers.

The introduction of Clover, and subsequently carrying the culture of the Common Turnip extensively into the field, marked distinguished eras in the improvements of English Husbandry. At a later period, Carrots were cultivated by some farmers: and within a few years past, the Mangel Wurtzel and the Ruta Baga have become objects of general cultivation. And now these five articles constitute essential branches of the highly improved Husbandry of Great Britain.

COMMON TURNIPS. These for a long time were raised (and perhaps this practice is still very general) by sowing the seeds broad-cast, and weeding and thinning them with hoes, till the plants stood at from a foot to fifteen inches apart. But the most correct practice appears to be that of drilling the seeds in rows, thinning them to the distance of ten or twelve inches in the rows, and hoeing and keeping them clear from weeds. And this weak, watery root has been the principal food of immense flocks of store sheep, during the winter; and when plentifully given, only with the addition of straw, has served to fatten cattle and sheep for the market.

CARROTS. Even these plants, which are so long after they vegetate extremely small, were also raised from seed sown broad-cast. But this awkward practice, I believe, has generally given way to the row-culture, whether the seeds were sown by hand, or by the instrument called a drill. In very rich land, great crops have been raised where the rows were only from twelve to fifteen inches apart. The great crop of 752 bushels, weighing eighteen tons and three quarters, raised on one acre, in Salem, by Erastus Ware, in 1817, was in rows, about sixteen inches apart. The seed was sown the 14th of May. But I am inclined to think a preferable mode would be, to sow the seeds in double rows about ten inches apart, with intervals of three feet between the double rows, so as to admit a small plough, as well as the hoe, in their cultivation. In this case, a deep furrow being opened by the plough, the manure should be regularly thrown into it, and covered by four back furrows, so forming a ridge over the manure; and this ridge being laid level with a light harrow, or with rakes, or if the soil is in fine tilth, by a light roller, will then be ready to receive the seed.—As soon as the carrots are plainly to be seen, they should be hoed and weeded; or the weeds will soon outstrip the carrots (which are of very slow growth at first)

and render their cleansing vastly more troublesome and laborious. They should also be thinned, to stand single, and only from three to five inches apart in the rows; or the roots will be small, and cost much more time in handling and topping (cutting or wringing off the tops) at the time of harvesting them. The entire crop, too, will doubtless be smaller than when the plants are thinned as here recommended.

THE MANGEL WURTZEL. This plant yields a much more abundant crop than the Carrot: and at the same time contains, in the same quantity or weight of roots, a great deal more nourishment whence it is natural to suppose that it requires a richer soil than Carrots. I have not made sufficient trials to enable me to express a decided opinion on the best mode of cultivating the Mangel Wurtzel; and will therefore lay before you the successful practice, on strong land, in the county of Essex, in England, as it is stated, from a recent English publication, by the Philadelphia Society of Agriculture.*

The Mangel Wurtzel is sometimes called the Great or Improved Beet, and Root of Scarcity; but now, more generally, Mangel Wurtzel, its German name. The following is the account of its culture, at Bedfords, in Essex.

It may be proper, in the first place, to state what is meant by *strong land*. The surface soil is loamy, and from four to twelve inches deep, upon a bed of strong clay mixed with gravel. It is too heavy, and generally too wet, in the winter, even for sheep to eat a crop of turnips on the ground; and although good turnips are raised upon it, it is always necessary to draw them for the sheep, stall-fed cattle, or cattle in the yards."

In the middle, or latter end of the month of April, the furrows are set out with the plough, two feet apart, and double ploughed; that is, the plough returns on the [same] furrow to the point whence it set out, forming a ridge between each two furrows."

Double ploughing with a common plough is preferable to single ploughing with a double mould board plough, because it affords a greater depth of loose earth than the double mould board plough would produce."

In these furrows, the manure, which should be in a rotten state, is deposited, after the rate of six cubic yards to an acre."†

The ridges are then split by the plough, going and returning the same way, as before-mentioned; leaving the manure immediately under the middle of the new ridges. A light roller is then passed along the ridges,‡ in the middle of which the seed is

* Memoirs of the Society, Vol. III. Appendix.

† Six cubic yards contain 162 cubic feet, or three cartloads for a pair of oxen. A cart body, 7 feet long, 4 feet wide, and 2 feet high, *in the clear*, contains 56 cubic feet; and three times 56 are 168.—I doubt the necessity of manure being "in a rotten state," seeing it is to be so deeply buried, for this or any other root crop intended for the food of domestic animals; especially for Mangel Wurtzel, which, to obtain a full crop, should be sown very early, as soon as the ground is dry enough to be ploughed. The powerful fermentation of fresh dung might impart to the soil a salutary warmth in the cool spring season. At least it may be worth while to try it.

‡ These narrow ridges, as formed by the plough, are sharp: by passing a light roller over them, they are flattened to a breadth of eight or nine inches. The light roller, drawn by a horse, that walks in the furrow between them, flattens two ridges at a time.—Thus rolled, the manure will be covered eight or nine inches deep.

dibbled, so that the plants may receive all the benefit which can be derived from the manure."§

The seed is deposited about an inch deep, whilst the moisture is fresh in the earth,|| and covered by drawing a garden rake along the rows. After this, the light roller is again passed along the ridges, [to press the earth upon the seeds] and the work is finished."

When the plants are about the size of a radish, they are hoed with a turnip hoe, leaving the plants in the row about twelve inches apart. If any of the seeds fail, and there happen not to be an even crop, the roots where they are too thick are drawn out before the hoeing takes place, and transplanted to fill up the vacant places, and insure a full crop; which is always certain, inasmuch as 99 plants out of 100 thrive and do well. In transplanting, care is necessary to prevent the point of the root from turning upwards."

The weeds, while the plants are young, are kept hoed; but after the head of the plant has once spread, no weed can live under its shade; and the expense of hoeing afterwards is trifling indeed."

§ A dibble is a simple tool, which may be of different sizes and forms, according to the uses it is intended to serve. If for setting (in transplanting) cabbages or other like plants, it may be a round stick about an inch and a quarter in diameter, shaved down at one end (in a slope of eight or ten inches long) to a blunt point. An old spade or shovel handle is well adapted to the purpose. If much used, the slope may be advantageously covered smoothly with iron. But for putting in seeds, the dibble may be in the form of the letter T. To make one, take a piece of wood about three feet four inches long, and about an inch and a quarter square. In one of the sides bore holes in a line, and insert teeth at the proposed distance of the plants in the row: if for Mangel Wurtzel, at ten, eleven, or twelve inches apart; and let the teeth be as long (projecting from the head-piece) as the proposed depth at which the seeds are to be sown. On the opposite side of the head-piece, bore a hole in the middle, large enough to receive a handle of convenient length. On the top of the handle fix a cross-piece five or six inches long, to be grasped by the hand in using the tool. With it, as many holes for seeds will be made, at every movement, as there are teeth in the head. The handle may require bracing, in like manner as a rake handle and its head are braced by means of bows.

It now occurs to me, that perhaps the light roller used in levelling the tops of the ridges may be set with teeth, and thus perform the additional office of making holes for the seed; and with vastly greater expedition than by dibbling. A light roller, long enough to flatten two ridges at once, of thirteen inches in diameter, and furnished with two sets of four teeth each, to pass along the middles of two adjoining ridges—and the four teeth of each set being inserted at equal distances in a circle of the roller,—the holes for the seed would be made at the desired distance of near one foot from each other. The seeth should be so shaped as to leave the holes made by them fairly open. For this purpose they may be an inch and a half wide, and three quarters of an inch thick, where their shoulders are fayed to the roller, and taper thence to a rounded thick edge at their extremities. The same teeth, if not too long, may serve to regulate and expedite the sowing of the Ruta Baga seed.

|| It is very important to have seeds of all kinds sown as soon as possible after the ground is ploughed and prepared to receive them, and before the moisture of the fresh stirred earth is dissipated by the sun and drying winds: otherwise some may never vegetate, or not till after a fall of rain; and so precious time may be lost, and an uneven crop be produced.

"The whole of the crop is taken up in the month of November,* in dry weather. The tops are cut off near the *crown* of the plants, and the plants, when perfectly dry, are piled up in a shed, and covered with straw sufficiently thick to preserve them from the frost. They kept last year till the latter end of March, and they would have kept much longer."

"Where a field selected for a crop of beet, [the Mangel Wurtzel] happens to be in a foul state, the seed had better be sown in a garden, and the whole field planted with the young beet, when of the size of a radish. This will give time for cleaning the ground, and fitting it for a crop; for although the beets are destroyers of weeds, it is not meant to recommend sowing them on foul ground, or in any way to encourage a slovenly system of farming."

"The method of cultivating the beet root here recommended is the same as that used in the cultivation of turnips, in Northumberland and other parts of the North [of England] with this exception, that the rows there are twenty-seven inches apart. There may be reasons in the North for still preserving that space; but in Essex the effect of it, in the cultivation of the beet root, would be, that instead of 48 tons per acre, 43 tons only would be obtained.—Experience has proved, that the roots do not get to a larger size in rows three feet apart, than they do in rows two feet apart. It may therefore fairly be presumed, that they would not be larger, in rows twenty-seven inches apart; and if not larger, the weight of the crop, per acre, must be less, because the plants decrease in number as the rows increase in space."

To the preceding account of cultivating the Mangel Wurtzel, I will subjoin a few

REMARKS.

In this mode it is intended that every two feet of ground should bear one plant: and as an acre contains 43,560 square feet, there will be half of that number of plants on an acre, and the roots must weigh nearly five pounds each, on an average, to yield 48 tons. The land must indeed be strong to produce so heavy a crop. If our lands, enriched and prepared in the best manner conveniently in our power, can be made to yield half as much, we shall have reason to be satisfied: especially as the Mangel Wurtzel, quantity for quantity, contains more than twice as much nutritive matter as the Ruta Baga, and even fifty per cent. more than Carrots; according to the experiments (by analysis) of a celebrated English Chymist, Sir Humphrey Davy, which he stated to the British Board of Agriculture. These experiments were made with the red and white beets; but it is presumed that the Mangel Wurtzel produces as much nutriment as any other beet.

Instead of six it may be adviseable to apply at least twelve cubit yards (that is six such cartloads as were before-mentioned) of manure to an acre; and to distribute the same in deep furrows, four feet apart. This would give four square feet of ground to each plant, the plants being at a foot distance one from another in the rows, four feet apart would admit the use of the common horse-plough in their cultivation.

Carrots and the Mangel Wurtzel possess one eminent advantage: that they are not, to my knowledge, annoyed by insects at any period of their growth.—Whereas the Ruta Baga, and other turnips, while in the seed leaf, are injured (in England whole fields are often destroyed) by a small black fly: and the Ruta Baga (like cabbages) when far advanced in growth, is sometimes infested, and in dry seasons half ruined, by plant-lice; as was my small crop in 1818.

The Mangel Wurtzel also possesses one peculiar advantage above all other root crops, that as soon as the tops, or leaves, are full grown, they may be stripped off (leaving only the small heart leaves uninjured)

and given to cattle and swine. This stripping may be repeated once or twice: and it is said that the *turnip crop*, is far preferable to the sowing of the seeds, roots thrive better for the stripping. If not stripped and letting the plants grow where their seeds first off, many of the upper leaves perish.—The leaves vegetated. But then he considers it indispensable to are pronounced excellent for increasing the richness and quantity of milk in cows; and so are calculated And by sowing the seeds in beds, to raise plants, as to supply the deficiency of herbage in the common pastures, which generally fail, more or less, by the beginning of August. An acre twice stripped will yield several tons of leaves.

THE RUTA BAGA. This root may be cultivated in the manner just described for the Mangel Wurtzel; being introduced (taking care in putting it into the ground being prepared in the same manner. In England, they appear to be most commonly grown in rows twenty-seven inches apart, with the plants at the hand, the earth is pressed close against the root, foot distance in the rows. But William Cobbett, who in a small book published in New York, has minutely described his own practice, both in England and America, asserts, that the largest crops are attainable by growing the Ruta Baga in rows four feet apart, with the plants about ten inches or a foot distant from each other in the rows: and that in this mode of culture he has raised, in England, 30 tons to the acre.

For this mode of culture, the manure, being deposited in furrows four feet apart, is covered by four back furrows, two on one side and two on the other, of each line of manure; by which little ridges are formed: and if the ploughing be deep (as it ought to be) there will be a deep gutter between every two ridges.—The tops of the ridges being made fine with a light harrow, or with rakes, the seeds are sown with a drilling machine; or by hand, which Mr. Cobbett says he prefers to a drill. Two men sowed for him seven acres in three days, using about four pounds of seed, in this manner: a man went along by the side of each ridge, and put down two or three seeds in places at about 10 inches from each other, just drawing a little earth over, and *pressing it on the seed*, in order to make it vegetate quickly, before the earth became too dry. But, he adds, the seven acres might have been sown by one man in a day, by just scattering the seeds along on the top of the ridge, where they might have been buried with a rake, and pressed down with a spade or shovel, or other flat instrument. But he used a light roller, to take two ridges at once, the horse walking in the gutter between.

The time of sowing the seeds must vary with the climate. On Long Island (State of New York) Mr. Cobbett's trials of one year led him to prefer the 26th of June; but in our own county, I would not pass the middle of that month. Indeed I think it expedient (in order to ascertain the fittest time) to commence sowing the seed as soon as the ground can be prepared after the planting of Indian corn, and to continue to sow, in small plots, weekly, until the middle of June.

As soon as the plants are fairly up, hoes and the fingers are to be used, taking out all the plants but one in each ten or twelve inches. As soon as weeds appear, hoeing is to commence, hoeing the tops of the ridges to the width of about six inches, showing the plants distinct and clean. Then the plough is introduced, taking a furrow from the side of one ridge, going up the field, a furrow from the other ridge coming down, then another furrow from the same side of the first ridge going up, and another furrow from the same side of the other ridge coming down. In taking away the last two furrows, you go within three inches of the turnip plants. Thus a ridge is formed over the original gutter. The next process is, to turn these furrows back again to the turnips. This hoeing and ploughing is to be repeated, when the appearance of the weeds requires it; and afterwards, the few weeds which may rise are to be hoed or pulled up. In this way Mr. Cobbett thinks a thousand bushels of Ruta Baga may be raised on an acre that will yield fifty bushels of Indian corn.

In describing the culture of the Mangel Wurtzel, transplanting was mentioned, to fill vacant places. The same may be practised with the Ruta Baga. But unless those vacant spots be dug afresh, the transplanted roots will be much inferior to their untransplanted neighbours; as I found in my last year's experiment. And Mr. Cobbett mentions the like difference in his practice. At the same time he strongly recommends

a necessary instrument. The hole made by it must be fully as deep as the length of the root; and this hole not to bend its point) the dibble is thrust down by its side, and by a dexterous twist, or circular motion of the hand, the earth is pressed close against the root, in its whole length. The largest crop of Ruta Baga he ever raised in England, Mr. Cobbett says, was by transplanting, on seventeen acres; which produced thirty three tons to the acre; the rows (on ridges) four feet asunder, and the plants a foot asunder in the rows.

In this mode of raising the Ruta Baga, by transplanting the entire crop, so much time is gained for preparing the ground, that two crops of weeds may be destroyed, by that number of ploughings; the first in the beginning of June, and the second immediately before transplanting. But Mr. Cobbett recommends a previous *deep* fall ploughing, and another *deep* ploughing in April, of the ground intended for the Ruta Baga. The like two deep ploughings will be equally proper and beneficial for the Mangel Wurtzel and carrots.

Among the advantages of the transplanting method, mentioned by Mr. Cobbett, one is, "that it saves almost the whole of the *after culture*. There is no hoeing; no thinning of the plants; and not more than one ploughing between the ridges."

HARVESTING OF ROOTS. The Mangel Wurtzel, growing chiefly above the surface, and thus exposed to frost, should be taken up the latter end of October or beginning of November, according to the nature of the season. The harvesting of Carrots may follow that of the Mangel Wurtzel; and the Ruta Baga succeed the Carrots. In the first experimental culture of these roots, in which but small quantities are raised, they can be preserved in dry cellars not liable to freezing. Where large quantities are raised, they may be deposited in heaps, sufficiently covered, in a dry field. The common method of heaping and covering roots in the field, and which Mr. Cobbett practised with the Ruta Baga, is perhaps, as good as any. Holes of a round or square form are dug about a foot deep, and about fifty bushels are put into each, piling up the roots above the level of the surface of the land, sloping to the top: then covering them with straw, throw earth over the whole to a depth sufficient to guard them from frost. Smooth the surface of this earth by beating it close with the back of a spade, or other instrument, the better to cast off rain. On Long Island and in Pennsylvania, a covering of earth a foot or fifteen inches deep has been found sufficient. A greater depth will probably be necessary here. In throwing up this cover, a trench will be formed on all sides of the heap, to receive the water running off it. It may be well to sink the bottom of the trench lower than the bottom of the hole in which the roots are deposited.—Where large quantities are to be thus preserved, several loads may be put into one hole: and then oblong heaps will be best, as requiring less labour in covering them.—A quantity of roots, for feeding cattle till the middle of December, may be kept in a barn or stable covered with straw or any dry litter. I would begin feeding with Mangel Wurtzel—follow next with Carrots—and conclude with Ruta Baga; for the latter root will keep sound until the commencement of the summer succeeding their growth.

All the roots, especially the Mangel Wurtzel and Carrots, should be fully dried before they are housed or covered in the field, to guard them against rotting.

ROOTS FOR RAISING SEED. Of the Mangel Wurtzel I would select large and fair roots, of a red colour, whose bodies have grown most above ground, and with a moderate, if not the smallest, quantity of

* The time of taking up the Mangel Wurtzel must be regulated by the climate. There is sometimes a frost in the latter part of October, in this county, severe enough to injure this root, exposed as the greater part of it is, above ground. Light frosts, however, will do it no harm, while the roots remain in the ground, and in a degree sheltered by their leaves.

leaves; for although these are valuable for stripping the roots are much more valuable; and I am inclined to think those with small tops are least liable to rot.

Of Carrots, large and fair roots of the deepest yellow colour, and with the smallest tops in proportion to the size of the roots, are to be preferred.

With regard to the Ruta Baga, Mr. Cobbett says it is apt to degenerate if the seed be not saved with care. "We in England (says he) examine well to find out those that run least into neck and green. We reject all such as approach at all towards a whitish colour, or which are even of a greenish colour towards the neck, which there ought to be a little of a reddish cast."

Varieties of plants of the same kind (the different sorts of cabbages, for instance, or of Indian corn) if growing near together and bearing seed, will impart to one another their respective peculiarities, and injuriously, whenever it is desired to preserve their distinct qualities unmixed, and to prevent an inferior engendering with one of superior quality: the impregnating dust of the flowers of plants falling on the flowers of other plants of the same kind, producing effects similar to the crossing of animals of the same kind but of different breeds. In a word, the sexual system exists in plants as well as among animals: only in plants the male and female are generally united in the same plant; as in Indian corn, the male impregnating dust (the farina) is in the tassel or flower, at the top: the ear is the female, and from every cell of the future grain proceeds a thread, which together constitute what is called the silk, on which the farina falling, causes the cells to fill, and become, when ripe, kernels of corn. In most fruits, as the apple and pear, the male and female are in the same flower. But in hemp, some of the plants are exclusively male, and others exclusively female.

The Ruta Baga, therefore, when set out for bearing seed, should be placed at a distance from every other seed-plant of the Turnip or Cabbage kind. So likewise the Mangel Wurtzel intended to bear seed, should not be set near any other seed-beet plants. It may not be amiss to add, that for the same reasons, pumpkins, squashes, melons, cucumbers, in all their varieties, in order to preserve them in purity, should be planted at some distance from each other.

Pumpkins, as food for domestic animals, seem closely connected with the roots before-mentioned. Every farmer knows their value for milch cows, for fattening cattle, and for swine. Their consumption conveniently precedes that of the Mangel Wurtzel.

With ample supplies of the Vegetables whose culture I have mentioned and described, our present Stocks may be better fed, their numbers enlarged, our coarse fodder be more advantageously consumed, our manure increased, and pork and beef and the products of the dairy, probably doubled. The latter, in particular, are miserably deficient, from the want of juicy food for cows, in continuance of the supply yielded by our common pastures just at midsummer. Pumpkins and the roots, indeed, will not be ready to keep up that supply; but oats and barley, and above all Indian corn, may be sown and planted, to be cut green, and carry along our cows to the last of September, when pumpkins will begin to ripen. The consumption of these green crops and roots, by producing vast additions to our manure, will enable us to enrich our fields, and to make annual additions to the products of our farms.

The immense importance of providing for cows a full supply of food, and of food which they relish, to the extent of their appetites, has been demonstrated by many examples of very large products of milk, butter and cheese, from cows so supplied. The following statement from a recent English publication is a further illustration of the fact:—"A farmer, some years since, kept eighteen cows upon a Common, and was often obliged to buy butter for his family. The Common was enclosed [which deprived the farmer of his pasture]; and the same person supplied his family amply, with milk and butter, from four cows well kept."

(To be continued.)

TRANSACTIONS OF THE
Agricultural Society
OF NEW CASTLE COUNTY, DELAWARE.

Communicated for publication in the American Farmer.

[CONCLUDED.]

The following Address was read before the Society at the meeting held on the 28th of February, 1810, by Thomas Mendenhall, the same member who delivered the one on the culture of the Potatoes, published in the last Farmer.

MR. PRESIDENT,

SIR—Although the period which has elapsed since our last quarterly meeting, has afforded little opportunity for practical operations in our professional pursuits, and the season has been productive only of consumption and expenditure, the mental faculties of many may have been proportionally invigorated, and actively engaged in improving the old, or in developing new sources of production, to repair these dilapidations.

Whilst shapeless matter bound in winter chains,
Render'd inactive waits the milder thaws,
The mind mured to such restraint diathas.

To yield its independence to his laws;

But is industriously pursuing the traceless paths of investigation and discovery, in order that the reflections of a winter's day may be made to produce, if nothing better offers, something to augment our stock of theoretical speculations. Believing my fellow labourers were all "burning their lamps," and improving "their talents," I was fearful of being found among the foolish virgins or the unprofitable servants; I have therefore, endeavoured to be prepared, but little is given, little is also required; and I claim this as my apology for the trifles I have the honour to offer.

Among some agriculturists, I have heard the opinion advanced, and in several publications I have read the assertion, I believe without contradiction, "that on some soils manure will sink, disappear, and do so little good as almost to discourage the cultivator from putting it on his land." At first view this specious dogma, has so much the appearance of plausibility, that it is by no means strange the error should have so readily escaped detection; but I believe a patient inquiry into the operations of the laws of gravity and attraction, and a comparative examination of the specific gravity of different substances, together with a close investigation of facts intimately connected with the subject, that opinion will be given up for one more rational and equally conclusive; this investigation being naturally connected with, and involved in a series of active principles, and some known causes, it is necessary in order to arrive with certainty at truth, we should endeavour to acquire a knowledge of those agents, adopt them as causes, and calmly submit to the effects they must produce on the elementary principles of the subject of inquiry.

The objection I shall offer to the received opinion, that manure will sink on some land, is in fact founded upon the fact, that water cannot sink in the earth below the spherical level of the adjacent or surrounding rivers, and seas, with which it will always form a corresponding, though invisible horizon; there, defended by the earth above from the pressure of the atmosphere, and operated upon by the centrifugal force, and the laws of attraction, it must have a continual tendency to rise in small particles towards the surface of the earth, in a proportion corresponding with the density of the conducting medium through which it has to pass, and forms what may be called the continual perspiration of the earth—when this perspiration passes through different strata of minerals, &c. it must bring up more or less of these qualities to the surface, where the pure water is exhaled by the sun and wind, and the impurities, whatever they be, whether friendly or unfriendly to vegetation, adhere to, and amalgamate with the earth; and these if friendly, assist vegetation in forming what we call a loam or rich soil, limestone, marl, bitumen, &c. where they abound as substrata, may be received among the favourable ingredients for forming a soil friendly to vegetation, and iron, copper, alum, sul-

phur, &c. among the unfriendly agents—where they abound as substrata, it is in vain to look for soil, loam, or a wholesome vegetation, and these premises given, the principle that manure does not sink, as many have erroneously contended, but is eaten up or destroyed on the surface by the corrosive quality of the poisonous and acrid perspiration of the earth in those places; for this reason, I consider it the next thing to labour in vain, for man to undertake to make land rich, that the Almighty made originally poor, which has been poor ever since the creation, and will endeavour to continue poor as long as poisonous, and unfriendly minerals or agents exists as its substrata.

If manure is plentifully laid on, the condition of the surface may be bettered for a time, but it will strive continually to return to its original state of poverty and barrenness; whereas, if the land was found originally good when first cleared for cultivation, it is a proof that the substrata is favourable, and the perspiration of the earth wholesome, and friendly to vegetation; and where such land has been reduced by hard usage and neglect, treat it kindly, and it will exert its natural powers to regain its original state of productiveness—in this case the cultivator has natural causes working in his favour, and in the other, against him; nevertheless, in all probability there is much of our thin land, which partakes of neither of those qualities; whose substrata, as well as the surface are of the neutral or negative kind, the surface of these lands may be improved advantageously by lime, plaster, and good manure: but had I a choice to make, I should certainly prefer the land, where symptoms of a natural propensity to improve were observable in its original state.

Upon the principles I have advanced of the laws of attraction, and the centrifugal force sending a continual supply of moisture from the fountain below, towards the surface of the earth, in all lands elevated above the level of the sea or adjacent waters, the theory of most of our springs may be plainly demonstrated; particularly of those which are little, if any, affected by our greatest droughts, and many such we have, which I have no doubt receive their regular and only supply from this subterraneous fog or dew, condensing, uniting by natural interruptions, such as strata of rock, slate, &c. through which it cannot pass, and forming little streams in the earth above the level of those springs, which pursuing various passages again and again united, are conducted by the laws of gravity to the nearest favourable spot to disengage themselves from the earth, join some consolidating stream, and seek their native fountain, the sea.

In concluding the subject of my communication, I have to observe that the hypothesis I have assumed against the sinking of manure on any land, seems to correspond with, and is dictated by the harmony and beauties of creation: on the contrary, if it were the fact, that manure, or decomposed vegetable matter, which is the same thing, will sink on some land in the manner we have heard it asserted; it must consequently sink more or less on all lands, and this involves the paradox, that nature is continually working against her own efforts at production and support; as her spontaneous productions, if there were any, in that case could accumulate nothing from their dissolution to favour reproduction. Those who will persist in supporting the sinking principle, to be consistent, should shew us some utility to be derived from it, or that it agrees with the harmony of creation; otherwise we are called upon to believe in a principle constantly working against infinite power and infinite wisdom—an evil genii endeavouring to undermine and destroy the whole vegetable and animal creation, by carrying off from nature's laboratory, the indispensable materials for their production and support.

As the aggregate of society is composed of individuals, it becomes the duty of each to contribute something towards the general welfare; and as nothing tends more to obstruct the progress of the inquiring mind in the pursuit of useful science, than the stumbling blocks which ignorance or design have placed in its way, any humble attempt to expose and explode antiquated errors of any kind, if not entitled to the approbation, may at least hope for the indulgence, and protection of this society.

FOR THE AMERICAN FARMER.

ON THE PROFESSION OF

A Planter or a Farmer,--No. 3.

The inducements to the commencement of a system of measures, which may render the art and business of cultivation a regular, beneficial and distinguished profession, corresponding with its real and superior importance, were the topics of the two anterior numbers of these essays.

Before we enter upon any other division of this subject, it will be well to consider what has been the course of the other professions in this respect.

We find in a late stage of the Anglo-American empire, that a formal operation, in the case of the profession of the common law, was adopted in the system of the most courtly institution in our former national union. We mean the establishment of the professorship in the University of Oxford, enriched by *Viner*, and adorned by *Blackstone*. The nature and form of that attempt, is known to every man of reading and may be examined, in a single evening, by the careful perusal of that professor's admirable prefatory lecture "on the study of the Law," & of the heads of the divisions, sections or chapters of his four books of clear and methodised commentaries. The best effects on the junior members of that profession, are seen throughout the whole extent of our former national dominions, as well on the western and on the eastern side of the Atlantic Ocean. Even the general scholar, the statesman and the public functionary in America and Great Britain, would acknowledge themselves indebted to the able *Blackstone*, for their systematic views of the learned profession of "a common lawyer," derived from his introductory outline, and subsequent commentaries.

In the important profession of medicine, the most distinguished of all, in regard to human learning, and of indispensable necessity in a temporal view, an elegant *Enchiridion*, a beautiful manual has been given to us by the benevolent *Doctor Gregory*, of North Britain, in his book, concerning "the offices and duties of a Physician." It will repay, fully for the trouble of a perusal, and will amply prove that the most useful of professions in a mere human view, has found it expedient to promote, as a distinct and proper object, "the profession" of those who acquire and practice the healing art.

A less distinguished example, in a more important profession, to man as a subject of the empire of the two worlds: as a momentary tenant of the earth, and as a destined resident of the world to come, in regard to the profession of a minister of religion, is to be found in *Swift's** letter to a young Clergyman. As an example of the measures which have been adopted, to form man in the profession of the ministry; it is worthy of our attention, and is the work of a man of a strong mind attached to the interests of the body of the clergy, and possessed of a discerning and zealous public spirit. If our old empire has not given us an example, of as able and impressive an effort to promote as a profession, the ministry of religion, it may be owing to its connexion, rather with piety than temporal benefit. But *Swift's* address, to which we request attention, is a fair and important example to our point, and "the profession of the Planter and Farmer;" the first and most necessary pursuit of man, ought equally to engage our attention and our zeal, as well for the honour and interest of its pursuers, as for the general welfare of our rising country.

If the considerations which have been suggested in these three essays, should on reflection convince us, that the public interests, and the honour and advantage of the American cultivators themselves evidently require, that there should be commenced a systematic exertion to render, "the profession of a Planter or Farmer" more and more respectable, technical, scientific, lucrative and beneficial to the country then

the important question occurs, as to the right means to effectuate the interesting end.

It is recommended, that every measure, great and small, local or general, easy or difficult, cheap or costly, in practice and in theory, for the young and the old, the judicious and the simple, the rich and the poor, the bond and the free, which will promote the great end, and make progress in improvement shall be attempted by individuals, associations, societies, and legislatures of the states and the union, by public and private funds, with ingenuity, zeal and activity, and without delay.

The novelty, magnitude and diversity of the various parts of the subject require, that it should be commenced in the earliest stages of life, and in our infantine scenes of scholastic and domestic instruction, and traced through all its forms and regularly upwards by all its degrees until it shall reach the digested system of theory and practice of the *Blackstone's* the *Gregory's* and the *Swift's* of Agriculture—the *Columellas* and *Cincinnatus* of ancient Rome—the *Rozier's* and *Chapital's* of France—the *Sinclair's*, *Young's*, and *Millar's* of Great Britain, and many of our distinguished compatriots of whom a want of room prevents the fair nomination. We may however observe, that among the evergreen and durable honours that cluster over the memory of the American Cincinnatus, those which belong to *Washington* the planter. *Washington* the farmer, are among the purest, soundest, happiest, least envied, best rewarded. *Indemnified only* as a warrior and civilian, he grew up, like his own well managed crops, into a fruitful harvest of landed opulence. True to the soil which gave him birth, whether he was occasionally called from it by duties civil or duties military, you trace him always, that duty finished, to his mother earth: Commencing life in the simple state of our culture in the year thirty-five of the last century, with a sound judgment, he added yearly to the stock of his knowledge by a delightful addition of the modern improvements in the varieties of agriculture. Faithful history learns the young to know him in the career of the soldier, and many faithful memories recognize him in the functions of a statesman. It is the proper object of these luctuations to excite the rising generation, the youthful hopes of our future prosperity to become, *Washingtons* in the bloodless field of Agriculture: Farmers by profession.

CINCINNATUS.

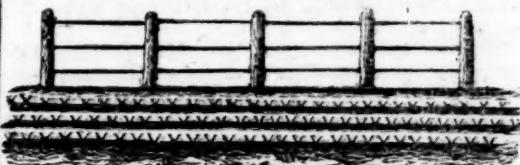
A NEW AND BEAUTIFUL SPECIES OF HEDGE.
FOR THE AMERICAN FARMER.

Charleston, (S. C.) April 3, 1820.

SIR—Your numbers on Hedging, I have read with pleasure, and they are well worth the perusal and attention of every farmer.

Permit me to suggest among the varieties enumerated in your essays, as fit for Hedging, one which I have been trying for ten or twelve years past, and succeeded equal to expectation, known here by the name of Non Descript. It is a large white running Rose, throwing out a vast profusion of flowers, armed with a great quantity of sharp prickles, which thicken and enlarge in their growth. The proper name I believe among botanists, is *Rosa Multiflora*. It is impervious to cattle of every description, and defies the attacks of a hog. Eight or ten years experience, empowers me to say so with truth. Being a vine, it thrives best on a moist piece of ground. The mode I adopted to obtain so valuable a fence was, in the first place, to make a post and rail one, sufficient to keep off cattle on the surface of the earth (having no ditch or bank) then turn up and pulverize the soil about six feet wide from the fence, to receive the plants or cuttings, then make three deep trenches with a

hoe, in which you plant the cuttings about 12 or 14 inches long. I will represent it as well as I can, in order to be understood—thus:—



The object in planting in trenches, is for the benefit of hoeing and stirring the earth, to promote the growth of the plant, which would otherwise be overrun by the grass, so rapid is the vegetation in the southern states. The more moist the season, and the thicker it is planted the sooner a fence is formed. In three years a good, substantial one is obtained, and every year after it strengthens with its growth, particularly if the plants have been well attended. It may be clipt with the shears to great advantage the first season—and it appears to me, so hardy is the plant, that after having attained a good growth, the oftener clipt the better, as it tends to make it spread and thicken. Such has been the case with mine. I have on my plantation, many miles in extent of the non descript, both on the post road leading to Charleston, and 14 miles distant therefrom, and in the interior of the plantation. Being an evergreen it is the admiration of travellers passing by—to please the eye, I introduced at about 40 or 50 feet distant, the daily red Rose cuttings, and the common Woodbine and Jessamine vines united, which when in bloom as they are at present, form a most beautiful contrast and pleasing sight.

I have thus given you a short description of a valuable plant, embracing in itself the *Utile* and the *Dulce* to all who will take the trouble to cultivate it as a fence, in my opinion it is equal to the first of fences; and no doubt it would grow in the northern as well as the southern states.

Should any gentleman be desirous to be furnished with any quantity of the cuttings, it will afford me pleasure to supply them, gratis; they shall be put in a large box of earth, attended with no other expense than the freight to Baltimore, or any other port, where they may be wanted. The proper time for setting out the cuttings is in January and February.

If you think the substance of the above communication to you, would be serviceable to the farmer, and worth publishing in your excellent paper, it will be a gratification to me to see it inserted—but I must request you to dress it up, in language suitable to meet the public eye.*

I remain, very respectfully,
Your most obedient,
CHARLES E. ROWAND.

J. S. SKINNER, Esq.

* We beg to be excused from any attempt to improve the style of the above letter—the simplicity and clearness of which, so well corresponds with the beauty of the subject—we can easily imagine how exceedingly beautiful a Hedge of the *Multiflora* must look, but it never before occurred to us, that it was practicable to use it successfully for that purpose—we are delighted to have the fact thus satisfactorily vouched for, and hope that no time will be lost in giving it a fair trial in the middle states. What an elegant enclosure it would make for gardens and barns, &c. &c.

Edit. Am. Far.

* Doctor Jonathan Swift, Dean of St. Patrick's in Ireland.

FOR THE AMERICAN FARMER.

On the cultivation of Turnips.

Pittsfield Ms. Dec. 22, 1817.

Confirming mine of the 12th inst. I enclose an account of the method I followed for the cultivation of turnips, agreeably to your request—and shall be much gratified should it be of use to you, or of any aid in your patriotic endeavours, to better the system of agriculture in your vicinity. As you seem inclined to try the experiment, I would observe, (though perhaps already known to you) that the only two difficulties to encounter in the cultivation of turnips are the *fly* and the *worm*; the former makes its attacks, between the time of *shooting out of the earth*, and the expansion of the seed-leaf, the latter from the time of becoming a bulb, until in its maturity. To counteract the former the first stage of vegetation must be *forced*—and this is attained by *sowing the seed immediately on the manure*, and then top dressing with lime, plaster or ashes. The latter are repulsed by means of the hoe.—By this operation you thin out the superfluous plants, and *take the earth from those left for the crop*; thus leaving the *tap root only*, in the earth—you must not be frightened to see them prostrate like transplanted cabbages, for the first two or three days,—they will soon raise their drooping leaves.

By giving the full force of the manure, immediately to the seed, the seed or *rough leaf*, is thrown out so rapidly, that the fly has little chance to operate, and by taking the earth from the bulbs (like radishes) the worm cannot find means to attack it. The best time to put in the seed is immediately after a shower—but be certain that the seed follows immediately upon spreading the manure in the drills and not let it have a chance to evaporate or cool. There is no danger of sowing too thick, not less than three pints of seed to an acre, from that to two quarts.

I would here remark for fear of misapprehension, that the *seed* of the acre of turnips, was of the common English kind (red and green tops) those called *white globes* are preferable, but we could not obtain any—and I would also observe that I intend to try next year, one acre of turnips with plaster only; if it succeeds, the expense will not exceed \$15 the acre.

You will observe by the enclosed account, that we rolled in the seed; I will hereafter transmit you a sketch of a roller, that I use for the purpose and so constructed as to be made heavy or light, as the use needed of one may require. This is an implement of husbandry (in my humble opinion) very requisite in farming, and not in use at all by our farmers.

Accept, Sir, my cordial salutation.

THOMAS MELVILLE, Jr.

Geo. M. Jeffreys Esq.

Persuaded that the opinion prevalent in this part of the country, relative to turnips was erroneous; that with not much more expense than on potatoes, an acre of *old improved land* could be made to produce, as in Europe, a much greater quantity than in the usual way of raising them on *new land recently burnt over*, or in *bog land*, I determined in the spring to

appropriate an acre on the farm belonging to my father, and under my care to this experiment.

For this purpose I selected a piece in a lot, which was probably one of the first cleared on the farm, and has entirely been, (from what I could learn from the neighbours) as often under tillage as any other piece on it, and quite impoverished;—the soil, a gravelly loam; in 1813, it was sowed to grain and stacked; 1814 and 15, mowed; 1816, $\frac{1}{2}$ to potatoes, and manured, and $\frac{1}{2}$ plastered and mowing.

On the 20th May, 1817, ploughed up the potato ground, and green sward together, half an acre of each; harrowed it well twice—in this state it remained till the 20th of June; ploughed and harrowed it again, and formed into drills, each drill about 28 inches apart, thus making 53 drills in the length of the piece, from north to south—the next day, carried on 14 loads of hog manure, 7 of sheep and 7 of common barn manure, and spread it *immediately* on the top of the drills;—the same day (to preserve the whole strength of the manure,) sowed the seed, (on the manure) and rolled it in immediately. The following day sowed on 30 bushels of slack lime and 15 bushels of house ashes;—to attend the experiment, divided their top dressings equally on the different kinds of manure, (so as to ascertain which manure, and which top dressing was most suitable for turnips) left about two square rods without either manure, or top dressing, and marked off three drills, not to be hoed at all.

In a few days, had the satisfaction to see that the seed had taken well,—at first, that part which had sheep manure, offered to be the best and most rank, while that without manure could hardly be perceived to have pierced the soil;—on the 10th of July harrowed *between the drills*, with a common corn harrow to loosen the soil and extirpate weeds;—on the 15th examined the field found no sign of worms; the part with sheep manure and ashes continued the most

promising; that with hog manure and ashes next. We now hoed out (with a small hoe, about five inches wide, and four deep, well steeled, and sharp on sides and face) so as to leave but one plant in four or five inches, and to take the earth from the remaining plants. After this first hoeing the drills with hog manure and ashes took the lead, those which had neither manure or top dressing, and those not hoed, were very diminutive in comparison.

The 21st July harrowed again between the drills, and the 26th hoed out the field a second and last time.

The 1st August began to thin out by hand (at which time the turnips were in size from $2\frac{1}{2}$ to $3\frac{1}{2}$ inches, except those not manured, and those not hoed, both which were quite small) and we thus continued every day or two, to thin out, for the purpose of feeding out to the stock—in this manner, 63 bushels were used previous to the field being measured and examined by Messrs. Strong and Osborne, for the purpose of ascertaining its produce, which they estimated 800 bushels.

On the 5th of November, began to take them in, and we had *twenty five ox cart loads*, which we estimated at good 30 bushels each, they weighed

about 40 pounds to the bushel, or about *fifteen tons* for the acre;—the expense of cultivation, has been, as at foot, \$17 75 cents—they were harvested, and got in, by a man and a boy, with an ox team, in two days and a half.

The average weight of the turnips, is I think from four and a half to six pounds; several weighed ten pounds, and one weighed $13\frac{1}{4}$ pounds; whilst those without manure, and those not hoed, do not average more than $1\frac{1}{2}$ pounds each.

MEMORANDUM OF EXPENSES, ON THE FOREGOING ACCOUNT OF TURNIPS.

Ploughing, harrowing, and drilling, ?	87	50
getting out and spreading manure } 50		
Seed and rolling, - - - - -		50
15 bushels unslacked lime, - - - - -		3
15 do. ashes, - - - - -		1
Sowing lime and ashes, - - - - -		25
Harrowing between drills, - - - - -		50
Hoeing and cleaning, man and boy, - - - - -		2 50
Harrowing drills, 2d time, - - - - -		50
Hoeing and cleaning, 2d time, - - - - -		2
		817 75

The satisfactory result of this experiment, (entirely novel in this part of the country) may I hope, induce many of my brother farmers, to turn at least a small portion of their *old natural grass lands* into turnip fields—the trial will not cost much extra labour, or expense, and experience will prove to them, that they can, not only keep their stock *cheaper and better*, but can keep a greater number;—besides the incalculable advantage of putting land in good heart for grain, especially wheat.

THOS. MELVILLE, JR.

Pittsfield, Dec. 1817.

P. S. I would always recommend *fall ploughing* of land intended for turnips.

FOR THE AMERICAN FARMER.

The Syrups and Treacles of the Farmer and the Planter, and the Saccharine Salt, or Sugar.

The catalogue of these sweets is swelling into great importance, by the improvements in our agriculture, and the useful arts, and the sciences. Chemistry is giving the most useful direction to our industry.

It is supposed, that we consume in crude sugar, or to refine in powder, lump and loaf, with the portion of molasses used in substance and not distilled, 60,000,000 of pounds of sugar, for 9,000,000 of persons. Of the various kinds, we do or can make.

1. Sugar or salt of the cane, and its refinements and candies.
2. Molasses, treacle, or syrup of the cane.
3. The sugar of the maple and other trees.
4. The molasses of the same.
5. The sugar of the beet in which France still perseveres.
6. The sugar or treacle of wheat, and perhaps other grain, after the manner of Mr. Joseph Cloud, of the mint United States, given in the Philadelphia Emporium of the Arts. The wheat if first skinned in a fir-

mity or hominy mortar, would yield the purer treacle.

7. The molasses, syrup, or treacle of fresh grape juice, boiled, or evaporated, before the least fermentation, as is done in France and particularly at Xeres in Spain to enrich wines.
8. The molasses of fresh, pure cider, treated in the same manner, by evaporation of watery parts.
9. The molasses of fresh pure peach juice, pressed like cider and treated in the same manner, by evaporation of its aqueous part.
10. Honey of bees.

The East Indians boil, distil, and evaporate by means of earthen vessels, and it has been thought, that as an earthen vessel is a slower conductor of heat, than an iron or copper vessel, they may thereby avoid burning the matter boiled, evaporated, or distilled. Experiments made with care and judgment, in the evaporation (by fire) of fresh expressed juice of apples (new cider) and fresh expressed juice of peaches, in the season, would be curious. Reports of them would be acceptable. It is said, that thirty gallons of fresh grape juice in Spain, will yield by such boiling or evaporation, about five gallons of fine syrup or treacle, as thick as molasses. In New Jersey (famous for cider) they make syrup from the evaporated juice of sweet and bitter apples, which are unfit for cider. In seasons when barrels and hogsheads for cider are scarce and dear, this manufacture of *apple syrup*, would be convenient and advantageous. The East Indians evaporate and boil, and distill, by a kind of fire-place, or furnace in the ground. It is made round, and about twenty inches wide, and full three feet deep. An opening is cut in the front, sloping down to the bottom. The sides of this opening are perpendicular, about nine inches wide, and fifteen inches long at the top from the circle, where an earthen boiler of about 25 inches diameter is to be set. This hole, in front of the furnace, is to put in wood and for air. Another hole is made in the side of the furnace for air, and to let out the smoke, of about four inches by three. The earthen jar is 25 inches wide by 22, from the bottom to the opening at top, which is eleven inches wide. It has also a neck rising two inches. The jar is unglazed—the bottom is rounded up like a cup. When the globular jar is set on the top of the furnace, it sinks into its proper bed, and is then covered above, all round (except the fire and air holes) with clay up to within one fifth of its top, when the furnace is complete. This form of a fire place boiler, evaporator or still, is very economical of fuel, and saves the whole expense of masonry. (The account of this furnace and process, may be found in a paper of Archibald Keir, Esq. in Jones' Asia, page 526, vol. I. Dublin edition.) A side of a hill, or slope, would be very convenient for such a fire place.

Grain and flour, which have been wet, or injured, might be used to make syrup, as they are often used to distill on account of the sugar they contain, which is the component part, that is convertible into spirit.

Further extracts from an approved English work on the management of horses and the treatment of their diseases, continued from page 71, vol. II. Am. Farmer.

COLIC, FLATULENT, GRISES or FRET. This is a very common disease in horses, and is produced by various causes, such as drinking freely of cold water when heated by exercise; eating greedily of food that is difficult of digestion, such as new hay or oats; eating too much green food when unaccustomed to it; an accumulation of hard dung in the bowels; and frequently it comes on without any apparent cause. Some horses are particularly liable to the complaint, and are gripped by the slightest causes; this is generally the case with horses that scour or purge readily even by moderate work, and with crib-biters. When a horse is attacked with this complaint, the pain at first is not often considerable; he appears uneasy and restless, sometimes pawing his litter, and looking round to his flank: as the pain increases, he lies down, groans, and continues to look round to his flank; he suddenly rises again, endeavours to strike his belly with his hind foot; he then lies down, endeavours to roll upon his back, and sometimes turns himself quite over. When proper remedies are not given, he sometimes continues in this state for several hours; at length however the pain becomes more violent, profuse sweats break out, the belly swells, and the pulse becomes quick. If not relieved at this period, inflammation takes place in the bowels, which is soon succeeded by mortification and death. On the first attack of this complaint the pulse is seldom altered, and it is sometimes so inconsiderable as to be easily cured by common domestic remedies such as gin and peppermint-water with some ginger, or warm beer and ginger; at others it is of a more serious nature, and requires the most prompt and efficacious treatment. A great variety of remedies has been proposed for this disease, and perhaps all of them have occasionally succeeded. Taplin has very injudiciously prescribed some carminative medicines in the form of a ball, which of course would require some time to be dissolved in the stomach. Whatever medicine is given should be in a liquid form; and if a ball be taken on a journey for the sake of convenience, it should be mixed with warm beer or peppermint-water before it is given, or even with warm water. Mr. Peck in his *Veterinary Medicine*, prescribes one ounce and a half of tincture of opium, and two ounces of spirit of nitrous ether. Mr. Feron recommends four ounces of oil of turpentine, to be given with gruel; and when the symptoms are abated, a cordial composed of one ounce of common turpentine, one scruple of opium, half an ounce of ginger, and half a dram of oil of aniseed, to be repeated after four hours if necessary. The following is Mr. Blaine's recipe:

Spirit of nitrous ether, half an ounce.
Tincture of opium, half an ounce.
Oil of turpentine, three ounces.
Mild ale or gruel, one pint.

When costiveness is the principal cause, he advises half an ounce of calomel to be given, made into a ball with honey, and immediately after the following drench:

Castor oil, one pint.
Oil of peppermint, one dram.
Oil of juniper, one dram.
Water, four ounces.

To be mixed together with yolks of two eggs.— The first thing to be attended to when a horse is attacked with gripes, is, that he is placed in a safe situation, and has a sufficient quantity of litter, as he might otherwise be hurt when rolling about in the violent paroxysms of pain.— The state of the bowels is then to be inquired into previous to the attack: if the dung was soft, or if the horse scoured, he may be speedily relieved by

Tincture of opium, from six drams to one ounce.

Sweet spirits of nitre, two ounces.

Gruel or warm water, one pint.

This drench should be washed down with a hornful of warm water, and then let him be led about for a short time. This will rarely fail of curing the disease; and if it does, the dose may be repeated after an interval of two hours, substituting a pint of peppermint water for the gruel. If the horse has not been observed to dung for some time previous to the attack, or if the dung was hard, in small knobs, and of a slimy appearance, it will be proper to give clysters and opening medicines, (see *Clysters*) in order to remove the hard dung lodged in the bowels, which probably is the cause of the disease; and if the horse is in good condition, more especially if the eye looks red and the pulse is at all too quick or full, it will be advisable to bleed him pretty freely.

Opening Drink:

Barbadoes aloes, powdered, three drams.
Castile soap, half an ounce.
Oil of peppermint, one dram.
Water, five or six ounces.

Mix the soap gradually with part of the water and the oil of peppermint, then mix with it the powdered aloes and the rest of the water; add to this one pint of castor oil, or sweet oil, and six drams of tincture of opium for one dose.— This drench will generally give relief, and by clearing the bowels remove the cause of the disorder. The opening clyster should be repeated if the pain does not abate. The horse's belly should be well wisked; or if the pain is violent it may be well rubbed with some stimulating embrocation, such as mustard mixed with water and a little liquid ammonia. Post and coach horses are liable to a very dangerous colic by being driven off at a quick rate, when the stomach is full of food; on such occasions the horse should be immediately taken out, and suffered to be at rest until the food is digested: to assist nature in this office it will be necessary to give something strongly stimulating, such as brandy, rum, or gin, diluted with warm water; or if these cannot be procured, warm beer, with a large dose of ginger or pepper. There is another kind of colic, in which the gut breaks through the mesentery and becomes strangulated; this always proves fatal. It is of the utmost importance to distinguish flatulent colic or gripes from inflammation of the bowels; and it should be recollect, that if it is not seasonably attended to, it often terminates in inflammation. See *Bowels, inflamed*; or vol. iii. of *Veterinary Medicine*, p. 115.

ALDERNEY COWS.

Among the various subjects discussed in this journal, we perceive with regret that the importance of paying more attention to the improvement of *milch cows*, has not been sufficiently insisted upon—for, in the various breeds of cattle, there is as much difference, as in the several breeds of horses, dogs, or any other animal. The hound and the spaniel, differ little more in form and constitutional habits, and propensities, than did the PENNSYLVANIA OX, and the MARYLAND HEIFER, lately killed in this market.

From this inattention to breed, we often see that half a dozen of the bad milkers, with which our farms are overstocked, positively yield less than *one good cow*, whose propensities are to the *fail*, in whom nature converts all her aliment into milk. But this is not all; for, no fact is better established, than that the milk of one breed of cattle will yield double as much *butter*, as that of another—both being fed and treated in precisely the same manner.

So well is the choice of blood understood in England, that the famous breeder, Mr. Bakewell, hires his bulls for, from 5 to 30 guineas each, for the season, according to their form, and his bull, Twopenny, covered at five guineas each cow.—His stock is preferred for the butcher, because of its propensity to fatten quickly, and from its carrying its weight in the most valuable parts of the body—but for richness of milk and proportionate quantity of butter, none, it is said, can be compared with the ALDERNEY Cow. Having heard and read of the extraordinary richness of the Alderney's milk, a few days since we improved an opportunity which was very politely offered us, to judge for ourselves—we saw the Alderney, and other cows milked—examined and compared each at different periods after milking; and we are firmly persuaded that the Alderney milk taken in the morning and divested of the cream at 2 P. M. is then richer than the milk of the common cow, when first drawn—it may be distinguished in the pail or the dairy, with half an eye, by its rich yellow colour, which passes through the cream and displays itself in the butter. The most transient observation of their superiority, in regard to the quality of their milk, must serve to convince those who keep a single cow for family use, as well as those whose pride is to sell the best butter in the market, that no time should be lost, in providing themselves with this invaluable breed of cattle. But it is believed that very few have been imported; they sold very high, and we do not know that any are now to be had. The propagation of this excellent breed for the purposes mentioned, cannot be too strongly recommended, and it is to be hoped will not be neglected. A very beautiful male calf of this breed, procured from H. Thompson, Esq. of this city, has been sent by captain Ridgely of the Navy, to his friend S. Swartwout, Esq. of Hoboken near New York—we mention the fact as an agreeable evidence of increasing attention to matters of this sort.

The examinations and comparisons here spoken of were made near this city, on an estate which has been highly cultivated and beautified by the industry and taste of its hospitable proprietor; to whom the following letters were addressed. It was on the same farm that we became thoroughly satisfied, by demonstration, that hedges of the American thorn, if cultivated and trimmed with punctuality and neatness, may be fully relied on for defence and embellishment of fields and pleasure grounds.

Editor Amer. Farmer.

FOR THE AMERICAN FARMER.

Philadelphia, May 6th, 1820.

SIR—Indisposition, together with a pressure of business, has heretofore prevented me from complying with your request, to give you some information relative to the qualities for which the Alderney Cattle were most celebrated. I cannot do this better than by referring

you to the 4th vol. of the Memoirs of the Philadelphia Society for promoting Agriculture, and by transcribing two papers on the same subject presented by Reuben Haines, Esq. It is proper to remark that this cow was three months on board ship, in the latter part of the fall and winter season, and the weather very stormy and cold, and that she calved at sea; from all of which she suffered greatly. There were several older cows belonging to the same stock, from which they made regularly, 11 to 12 pounds of butter per week, without any extraordinary keep. I regret to see by a letter from Mr. De Gruchy to Mr. Haines, that you offer any part of your stock at so low a price; you will thereby only depreciate the value of these cattle in the eyes of others not acquainted with their qualities, and render them less useful to our country than they otherwise would be. I have declined all applications to purchase heretofore, but have now a bull that I would sell, but my price is \$200. If those acquainted with their good qualities, do not hold them in high admiration it is not probable they will be sought after and used by others.

I am, Sir, very respectfully,
and truly yours,

MAURICE WURTS.

(COPY.)

" To the President and members of the Philadelphia Society for promoting Agriculture.

" With this you will receive a pound of butter made from the Alderney Cow, imported in 1815, by Maurice and William Wurts, and now in my possession. She calved on the 13th of last month, and is now in fine condition, running on excellent pasture of orchard grass and white clover, and yields on an average, about 14 quarts of milk per day; from this during the week ending the 7th inst., we obtained 10 quarts of cream, which produced 8 pounds 2 ounces of butter, and the week succeeding, 10 $\frac{1}{2}$ quarts, which gave 8 $\frac{3}{4}$ pounds of the quality of the sample sent. You will perceive it is of so rich a yellow, that it might be suspected some foreign colouring matter was added to it, but you may rely on it this is not the case. I may add that one of the good properties of this valuable breed of cattle is, the ease with which the cream is churned, requiring but a few minutes to convert it into butter."

(Signed)

" REUBEN HAINES."

Germantown, 10th mo. 20th, 1820.

(COPY.)

" Additional information relative to the produce of the Alderney Cow, imported by M. and W. Wurts, in the year 1815, mentioned in the 4th volume of our memoirs.

" This cow is a full bred Alderney, as will appear from the following certificate.

" I hereby certify, that the cow shipped by Maurice Wurts & Co. in the Catharine and Edward, captain Vickery, has been raised by me from the full blooded Alderneys, which I imported; and that the bull shipped by them in the same vessel, was imported from Alderney by Mr. Allnut, of this place.

(Signed) " RICHARD PLATT.
" Brixton, Surry, 7th Oct. 1815."

She is now five years and eight months old, and has had the following calves;—1st a bull, 12th month 15th, 1815, during her passage from England—2nd, a heifer, 12th month 3d, 1816—3d, a bull, 11th month 13th, 1817, and 4th, a heifer, 9th month 25th, 1818. All of which are in my possession, and likely to do well, and I hope will tend to improve the quality, of the butter sent to our market, already justly celebrated.

On the 17th of 10th month, 3 weeks after the last calving, we churned 10 $\frac{1}{2}$ quarts of cream, collected from one week's milk, which produced 8 $\frac{3}{4}$ pounds of the richest and yellowest butter I ever saw; and yesterday, at the end of 16 weeks, upon winter food (brewer's grains and hay, with about 1 quart of Indian meal daily) we obtained 7 $\frac{3}{4}$ pounds from a week's gathering, of which the following is a detailed statement.

1819, 1st mo. 9th, Evening, 4 qts.	1 half pint.
" 10th, morning, 5 do.	1 do.
" — evening, 4 do.	1 do.
" 11th, morning, 5 do.	2 do.
" — evening, 4 do.	2 do.
" 12th, morning, 5 do.	2 do.
" — evening, 4 do.	2 do.
" 13th, morning, 6 do.	
" — evening, 4 do.	1 do.
" 14th, morning, 5 do.	1 do.
" — evening, 5 do.	
" 15th, morning, 5 do.	1 do.
" — evening, 4 do.	
" 16th, morning, 4 do.	1 do.

Total, 67 quarts, 3 half pints of milk, yielded 8 quarts, 1 pint of cream, which made 7 $\frac{3}{4}$ lbs. full weight of butter, the quality of which the members will have an opportunity of judging, at the annual dinner of the Society this afternoon.

Very respectfully,
REUBEN HAINES.

RICHARD PETERS, President, &c.
Philadelphia, 1st mo. 19th, 1819.

FOR THE AMERICAN FARMER.

To take Honey without destroying the Bees.

MR. SKINNER.—As it is of some consequence to be able to take the honey from bees without destroying them, I send you a description of a hive and the manner of taking the honey.

The hive is made out of three separate boxes, about 4 inches in depth and 14 inches square, they are confined one upon the other by a rope, and only the upper box with a top; each one has sticks across upon the inside, for the purpose of supporting the comb, also a small glass window with a slide, to be able to see when the hive is fit to take; the bees begin to work at the top, and when they have filled the top box and have found a comb in the one below it, the top one may be taken off, the bees being below, and a top put upon the upper box that remain. They are taken by slipping a knife between the

box you intend to take and the one adjoining it, and then drawing a wire through to separate the comb from the upper and lower boxes; you may afterwards set another under the whole, having an entrance for the bees only in the lower box; care ought to be taken to leave the bees honey enough to carry them through the winter.

Your obd't serv't,
A SUBSCRIBER.

Additional quantity of Milk to be gained by keeping Milch Cows in the House.

In the management of cows, a warm stable is highly necessary; and currying them like horses, not only affords them pleasure, but makes them give their milk more freely. They ought always to be kept clean, laid dry, and have plenty of good sweet water to drink. Cows treated in this manner, have given two gallons of milk at a time, when within ten days of calving.

To prevent Cows from contracting bad habits while milking.

Cows should always be treated with great gentleness, and soothed by mild usage, especially when young and ticklish, or when the paps are tender, in which case the udder ought to be fomented with warm water before milking, and touched with the greatest gentleness, otherwise the cow will be in danger of contracting bad habits, becoming stubborn and unruly, and retaining the milk ever after. A cow never lets down her milk pleasantly to the person she dreads or dislikes.—The udder and paps, should always be washed with clean water before milking; but care should be taken that none of that water be admitted into the milking pail.

To preserve cattle from Disease in the Winter.

When cattle are kept out in the winter, it is recommended as a useful practice to rub some tar at the root of the horn, which prevents the wet from getting between the root and the skin; and it is said, contributes to preserve the health of the animal, and to keep it free from various diseases to which it may otherwise be liable.

THE FARMER.

BALTIMORE, FRIDAY, JUNE 2, 1820.

The near approach of the time for sowing turnips, will be a sufficient apology for occupying so much of this number with that subject; we heartily wish that the farmers of the middle and southern states, would duly appreciate the importance of turning their attention to the more extensive cultivation of root crops—so ably enforced by Mr. Pickering. But it will be in vain to expect success in this or any other similar undertaking, without taking the *proper pains* to put their ground in good condition.—Should we hazard too much in saying, that the remarks of Mr. Pickering and Mr. Melville, contained in this number, would of themselves be worth, to every subscriber anxious to know and willing to practice the best system, the price of his subscription for the year? Mr. Melville, we understand to be an active, inquiring, practical farmer—extensively engaged in the pursuits of husbandry, and receiving as he deserves, much commendation for his enterprise and good examples. He resided in France a dozen years or more previous to 1810, and has acquired much of the spirit and knowledge of their husbandry, with many of their best implements of farming, being himself well acquainted with mechanical principles; we have some other of his letters, which will serve to explain his economical and exemplary manner of feeding away his turnips, by steaming or cooking them, and mixing them with straw. Also, a plan of his farm buildings, steam house, the roller so highly recommended, &c. all of which we shall have engraved, and take much pleasure in presenting to the view of our subscribers.

Present Prices of Country Produce in this Market.
Actual sales of WHEAT—WHITE, 95 cts. to \$1—RED, 92 to 95 cts.—CORN, white 45 to 48 cts.—Yellow do. 45 to 46 cts—Mixed do. 43 to 45 cts.—RYE, 55 to 67 cts—HAY, good, per ton \$18 to \$20—STRAW, do. \$11.—FLOUR, from do. 33 $\frac{1}{2}$ to 34 cts.—BUTTER, 23 cts.—WHISKEY, from do. 33 $\frac{1}{2}$ to 34 cts.—LAMB, per quarter, 51 to 87 $\frac{1}{2}$ cts.—BEER, prime pieces, 10 cts.—LIVE CATTLE, \$6 50 to \$7.—FEATHERS, 40 to 45 cts—WHITE LEAD, OIL, &c. same as last report—TAN, \$1 50.—TURPENTINE, soft, \$2—SPIRITS do, 35 cts—ROSIN, common, \$2—PITCH, \$2—SHAD, No. 1, trimmed, \$7. Do. untrimmed, \$6 COTTON, 15 to 16 cts—BEANS, white, \$1 25—BLACK-EYE PEAS, 70 cts—MARYLAND TOBACCO, 2 hhds. Anne Arundel, sold the last week, for \$9—Four hhds. common crop, \$5—WAGON TOBACCO, fired, \$12 to \$14 50—VIRGINIA TOBACCO, no sales the present week, that we have heard of.

Esopus Mill Stones.

The subscriber has received a few pair of the above Mill Stones, which are highly recommended by those who have used them, for grinding of every kind of grain. Orders can be executed for all sizes required. Apply to

WILLIAM G. APPLETON.
79, Bowly's Wharf.

June 2nd, 1820.

ONE OF HOTCHKIS'S PATENT STRAW CUTTERS,

Embracing the late improvements made upon it, is now standing in the stable of the Indian Queen Tavern, where it will probably remain through this week, Gentlemen farmers and mechanics, are respectfully invited to call and examine the Machine, where they can see it in operation. Every part of this Machine is of iron and steel, except the bare frame and box. The Knife cuts against cast steel, which steels are bolted into cast iron, and are so constructed as to receive an edge similar to the knife, and are taken out and ground, and replaced with the same ease. The proprietor for the State of Maryland, will remain in Baltimore a few days, and can be seen at the Indian Queen Tavern, between the hours of 8 and 9 o'clock and 1 and 2 of each day.

Price of the Machine, with two solid cast steel knives, \$65.

June 2nd, 1820.

Agricultural Implements.

REMOVAL.

My agricultural friends and the farmers generally are hereby informed, that I have removed my Plough Manufactory to Pratt Street wharf, opposite to what was formerly Ellicott's wharf; where I am convenient to water carriage, and well fixed to carry on the business extensively.

In addition to my ploughs, I have on hand, and intend keeping the following machines, viz:

Ruta Baga, or Turnip Drill, to drop one row—Price \$10—This machine is very simple, and not liable to get out of order; drops and covers the seed in rows with great accuracy.

Corn, Peas, Beans and Mangel Wurtzel Dropper,—Price \$8—This is very simple and can be made to drop either of these articles in drills, the distance and quantity required, or wheat in one drill or more.

Bennet's Drill, for sowing clover and turnip seed—Price \$30 to \$35.—This machine is wheeled on a small Barrow by a man, with which he can sow 20 acres in a day, with greater accuracy than can be done by the most careful hand: and is so constructed as to increase or decrease the quantity of seed at pleasure.

He will make to order, double mould board and hill side ploughs; cultivators of corn on an approved plan, and horse rakes for cleaning stubble and raking hay.

The subscriber will be very attentive to any order sent from a distance, and the same justice done them as though they were present.—Letters directed as above will come to hand.

ROBERT SINCLAIR.

June 2nd, 1820.

PEASE'S

Patent Connecticut Ploughs.

A few of these celebrated ploughs may be had of the subscriber, at the following prices:—

Cast iron, Patent Moulds,	- - -	\$11
Wood Patent, Iron Moulds,	- - -	10
Common, two horse, Wood Moulds,	- - -	7 50
One horse, Seed Plough,	- - -	6 50

WILLIAM GORDON.
13, Bowly's Wharf.

June 2nd, 1820.

The above plough is highly recommended by a correspondent, in the first volume of the American Farmer, page 265—We know the person, and have confidence in what he says; the advantages of this plough are known and appreciated in Talbot county of this state.

Edit. Am. Far.

HOMINY MILL.

The subscriber having obtained letters patent on the 8th of May, 1820, from the President of the United States, for a Hominy Mill for grinding or cracking corn and divesting it of the hull, and for splitting and hulling peas, and for other useful purposes, offers for sale the patent Right for any particular state district or territory, on terms advantageous to purchasers. A handmill, put in operation by one man, will grind a bushel of hominy in 15 minutes, and if the corn be previously soaked in hot water, it will be divested of the hulls. Peas, by passing through the mill, are split and hulled with equal facility. The astonishing rapidity with which the mill grinds can only be accounted for from its novel and peculiar construction, and the perfect accuracy with which it is led. It can be made of any size, according to the power designed to put it in operation. The fact is generally admitted, and by no physiologist can be doubted, that corn ground into hominy will afford a third part more nourishment to horses and other animals than when given to them whole. The savings, therefore, which might be effected by the use of this cheap and simple mill are incalculably great, especially in corn countries, where millions of bushels are every year dealt out to animals in a crude indigestible state. The mill has been exhibited in this city, where its construction and operation have been seen and admired by many of the fathers of the country, by members of several Agricultural Societies, and other patrons of useful improvements. A domestic mill, so cheap that every farmer can purchase it, and so simple in its construction that any man can work it, needs only to be known to be brought into general use. Portable mills for the use of the army, and for splitting and hulling peas for the use of the navy, will be found convenient and economical. Hominy mills, of suitable size to be worked by one man, will be constructed and delivered in Boston for \$30 each. Arrangements will be made for shipping them by the first opportunity from that place, at the risk and charge of the purchaser, to any port in the United States which may be designated—Apply to the Patentee,

NATHAN READ, Belfast Maine.

H. & R. H. OSGOOD, Baltimore.

THOMAS BULFINCH, Washington City.

N. B. All persons are cautioned against invading said right.

June 2nd, 1820.

BALTIMORE,

PUBLISHED EVERY FRIDAY,

BY JOHN S. SKINNER, EDITOR.